

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 4.5. Off-Road Large Spark-Ignition Engines

§ 2431. Definitions.

DEFINITIONS

(a) The definitions in Section 1900(b), Chapter 1, Title 13 of the California Code of Regulations apply to this Article with the following additions:

(1) "Alternate Fuel" means any fuel that will reduce non-methane hydrocarbons (on a reactivity-adjusted basis), NO_x, CO, and the potential risk associated with toxic air contaminants as compared to gasoline or diesel fuel and would not result in increased deterioration of the engine. Alternate fuels include, but are not limited to, methanol, ethanol, liquefied petroleum gas, compressed natural gas, and electricity.

(2) "ARB Enforcement Officer" means any officer or employee of the Air Resources Board so designated in writing by the Executive Officer or by the Executive Officer's designee.

(3) "Assembly-Line Tests" are those tests or inspections that are performed on or at the end of the assembly-line.

(4) "Basic Engine" means an engine manufacturer's description of their unique combination of engine displacement, number of cylinders, fuel system, emission control system, and other engine and emission control system characteristics as determined or specified by the Executive Officer.

(5) "Calendar Year" is the twelve month period commencing on January 1 through December 31.

(6) "Certification Value" means the product of the measured emissions of the prototype engine at zero hours and the (calculated or assigned) deterioration factor.

(7) "Complete Engine Assembly" or "Engine Configuration" means an assembly of a basic engine and all of the specific applicable components (e.g., air intake, fuel and exhaust systems, etc.) and calibrations (e.g., carburetor jet size, valve timing, electronic software/firmware, etc.) required for the assembly to be installed in new equipment.

(8) "Confirmatory testing" means ARB directed emissions tests and inspections of the test engines and/or test equipment used by the manufacturer to obtain test data for submittal with the certification application. The emissions tests may be conducted at ARB, contracted out facilities or at the manufacturer's facility. The testing will be done at the expense of the manufacturer.

(9) "Crankcase Emissions" means airborne substances emitted into the atmosphere from any portion of the engine crankcase ventilation or lubrication system.

(10) "Deterioration Factor" means the calculated or assigned number that represents the certification engine's emissions change over the durability period. It is multiplied by zero hour (new) engine test results to determine the engine family compliance level. The deterioration factor is determined as per the Test Procedures. See "Emission Durability Period" below.

(11) "Emission Control System" includes any component, group of components, or engine modification that controls or causes the reduction of substances emitted from an engine.

(12) "Emissions Durability Period" is the period over which, for purposes of certification, a manufacturer must demonstrate compliance with the standards set forth in Section 2433(b). The durability periods are also noted in the table in Section 2433(b). The emissions durability period is used to determine an engine family's deterioration factors.

(13) "Emissions Durability Values" means emissions from an engine that has accumulated service equivalent to the engine's emission durability period, or the result of the product of the zero hour (new) engine test results and the appropriate deterioration factor (e.g., the certification values). The Executive Officer must approve the methods of service accumulation before the manufacturer begins service accumulation.

(14) "End of Assembly-Line" is defined as that place where the final inspection test or production line test is performed.

(15) "Engine Family" is a subclass of a basic engine based on similar emission characteristics. The engine family is the grouping of engines that is used for the purposes of certification.

(16) "Engine Manufacturer" means the manufacturer granted certification.

(17) "Equipment Manufacturer" means the manufacturer using the engine provided by the engine manufacturer to power equipment or vehicle.

(18) "Exhaust Emissions" means substances emitted into the atmosphere from any opening downstream from the exhaust port of an engine.

(19) "Final Calendar Quarter Production" is defined as the calendar quarter in which the production of an engine family ends.

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 4.5. Off-Road Large Spark-Ignition Engines

(20) "First Calendar Quarter Production" is defined as the calendar quarter in which the production of an engine family begins.

(21) "Fuel System" means the combination of any of the following components: fuel tank, fuel pump, fuel lines, carburetor or fuel injection components, or all fuel system vents.

(22) "Gross Engine Malfunction" is defined as one yielding an emission value greater than the sum of the mean plus three (3) times the standard deviation. This definition applies only for determination of control limits.

(23) "Model year" means the manufacturer's annual production period which includes January 1 of a calendar year or, if the manufacturer has no annual production period, the calendar year.

(24) "New Engine" is defined as an engine's ownership has not been transferred to the ultimate consumer.

(25) "New Engine Compliance testing" means ARB directed emissions tests and inspections of a reasonable number of production engines and/or equipment that are offered for sale, or manufactured for sale, in California in order to verify compliance with the applicable emission standards. The emissions tests must be conducted at a qualified testing facility. The testing facility is chosen by the manufacturer and approved by the Executive Officer. This may include ARB facilities, contracted out facilities, or the manufacturer's facility. The testing will be done at the expense of the manufacturer.

(26) "New Equipment" means an equipment's ownership has not been transferred to the ultimate consumer.

(27) "Off-Road Large Spark-ignition Engines" or "LSI Engines" means any engine that produces a gross horsepower 25 and greater horsepower or is designed (e.g., through fueling, engine calibrations, valve timing, engine speed modifications, etc.) to produce 25 and greater horsepower. If an engine family has models at or above 25 horsepower and models below 25 horsepower, only the models at or above 25 horsepower would be considered LSI engines. The engine's operating characteristics are significantly similar to the theoretical Otto combustion cycle with the engine's primary means of controlling power output being to limit the amount of air that is throttled into the combustion chamber of the engine. LSI engines or alternate fuel powered LSI internal combustion engines are designed for powering, but not limited to powering, forklift trucks, sweepers, generators, and industrial equipment and other miscellaneous applications. All engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act, as amended, and as defined by regulation of the Environmental Protection Agency, are specifically excluded from this category.

Specifically excluded from this category are: 1) engines operated on or in any device used exclusively upon stationary rails or tracks; 2) engines used to propel marine vessels; 3) internal combustion engines attached to a foundation at a location for at least 12 months; 4) off-road recreational vehicles and snowmobiles; and 5) stationary or transportable gas turbines for power generation.

(28) "Off-Road Vehicle" or "Off-Road Equipment" means any non-stationary device, powered by an internal combustion engine or motor, used primarily off the highways to propel, move, or draw persons or property including any device propelled, moved, or drawn exclusively by human power, and used in, but not limited to, any of the following applications: Marine Vessels, Construction/Farm Equipment, Locomotives, Small Off-Road Engines, Off-Road Motorcycles, and Off-Highway Recreational Vehicles.

(29) "Otto Cycle Engine" means a type of engine with operating characteristics significantly similar to the theoretical Otto combustion cycle. The primary means of controlling power output in an Otto cycle engine is by limiting the amount of air and fuel which can enter the combustion chambers of the engine. As an example, gasoline-fueled engines are Otto cycle engines.

(30) "Production Line Test" is defined as the emissions test performed on a sample of production engines produced for sale in California and conducted according to the Test Procedures.

(31) "Representative Engine Sample" means that the sample is typical of the engine family or engine family group as a whole (as defined in the Test Procedures). Except as provided in Section 2437, a representative sample would not include a low volume subgroup of the engine family or engine family group.

(32) "Scheduled Maintenance" means any adjustment, repair, removal, disassembly, cleaning, or replacement of equipment or engine components or systems required by the manufacturer that is performed on a periodic basis to prevent part failure or equipment or engine malfunction, or anticipated as necessary to correct an overt indication of equipment or engine malfunction or failure for which periodic maintenance is not appropriate.

(33) "Small Volume Manufacturer" means an engine manufacturer that produces a total of less than 2000 large spark-ignition engines annually for sale in the United States.

Board Administration and Regulatory Coordination Unit

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 4.5. Off-Road Large Spark-Ignition Engines

(34) “Test Procedures” means the procedures specified in both Part I and Part II of the “California Exhaust Emission Standards and Test Procedures for New 2001 and Later Off-Road Large Spark-ignition Engines”, and as specified in Section 2433(c).

(35) “Test Sample” means the collection of engines selected from the population of an engine family for emission testing.

(36) “Ultimate Purchaser” means the first person who in good faith purchases a new LSI engine or equipment using such engine for purposes other than resale.

(37) “Unscheduled Maintenance” means any inspection, adjustment, repair, removal, disassembly, cleaning, or replacement of engine, equipment or vehicle components or systems that is performed to correct or diagnose a part failure or equipment or vehicle (if the engine were installed in a vehicle) malfunction that was not anticipated.

(38) “Useful life” means a period of 7 years or 5000 hours of operation, whichever first occurs for engines having engine displacement greater than 1.0-liter, and 2 years or 1,000 hours of operations, whichever occurs first, for engines having engine displacement equal to or less than 1.0-liter. However, in no case may this period be less than the manufacturer's basic mechanical warranty period for the engine family.

(39) “Warrantable Condition” means any condition of an engine that requires the manufacturer to take corrective action pursuant to Section 2435.

(40) “Warranted Part” means any emissions-related part installed on a engine by the equipment or engine manufacturer, or installed in a warranty repair, which is listed on the warranty parts list.

(41) “Warranty Period” means the period of time, either in years or hours of operation, that the engine or part is covered by the warranty provisions.

(42) “Warranty Station” means a service facility authorized by the equipment or engine manufacturer to perform warranty repairs. This includes all manufacturer distribution centers that are franchised to service the subject equipment or engines.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43102 and 43104, Health and Safety Code. Reference: Sections 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.

REFERENCE